REMARKS

Claims 31, 33-35, 37-39, 42-44, 49-52, 54-57 and 61 are pending in this application. By this amendment, claims 31, 33-35, 37-39, 42-44, 49-52, 54-57 and 61 are amended, and claims 32, 40, 41, 46-48, 59, 60 and 62 are canceled. The current claims are amended for clarity. Independent claims 31, 50 are amended to recite, for every (K-1) lot, calculating a non-linear component of positional deviation of each of the measurement divided areas, updating correction information as needed in accordance with one of the calculated non-linear component of positional deviation amount, and performing exposure while controlling a position of the photosensitive object based on the estimate value and the correction information. Support for the amendments can be found, for example, at Fig. 12 and page 84, lines 7-15 (calculating a non-linear component of positional deviation every K-1 lot) and Fig. 7, subroutine 422 and the related disclosure (not updating the map for other lots). No new matter is added.

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

I.   **The Claims Are Patentable Over The Applied References**

The Office Action: (1) rejects claims 31-35, 37-44, 46-52, 54-56 and 60-62 under 35 U.S.C. §103(a) over U.S. 2002/0042664 to Kikuchi in view of U.S. Patent No. 5,525,808 to Irie et al. (Irie), and in view of U.S. Patent No. 6,338,925 to Tomimatu; (2) rejects claims 44, 57 and 59 under 35 U.S.C. §103(a) over Kikuchi and Irie in view of Tomimatu, and further in view of U.S. Patent No. 4,833,621 to Umatate; and (3) rejects claims 40 and 49 under 35 U.S.C. §103(a) over Kikuchi and Irie in view of Tomimatu, and further in view of U.S. 2001/0034563 to Matsumoto et al. (Matsumoto). Applicants respectfully traverse the rejections.

By this Amendment, claims 32, 40, 41, 46-48, 59, 60 and 62 are canceled, rendering the rejections of these claims moot.

Regarding independent claim 31, the applied references, even if combined as proposed, fail to result in "<u>with respect to every (K-1) lot of second and subsequent lots</u> in the specific process, for a plurality of measurement divided areas on the photosensitive object that includes at least the plurality of specific divided areas, calculating a non-linear component of positional deviation amount of each of the measurement divided areas from the individual fiducial position <u>based on an actual measurement value of positional information of each of the measurement divided areas and on the corresponding estimate value, updating the correction information as needed in accordance with a magnitude of one of the calculated non-linear component of positional deviation amount of each of the measurement divided areas and a variation amount of the non-linear component, but not updating the correction information with respect to the remaining lots</u>, and performing exposure while controlling the position of the photosensitive object based on the estimate value of positional information of each of the plurality of divided areas and on the correction information that is latest, wherein <u>the K is an integer not less than 2</u>".

Regarding independent claim 50, the applied references, even if combined as proposed, fail to result in "an updating device that, <u>with respect to every (K-1) lot of second and subsequent lots</u> in the specific process, for a plurality of measurement divided areas on the photosensitive object that includes at least the plurality of specific divided areas, calculates a non-linear component of positional deviation amount of each of the measurement divided areas from an individual fiducial position <u>based on an actual measurement value of positional information of each of the measurement divided areas detected by the detection device and on the corresponding estimate value, and updates the correction information as needed in accordance with a magnitude of one of the calculated non-linear component of</u>

positional deviation amount of each of the measurement divided areas and a variation amount of the non-linear component, but does not update the correction information with respect to the remaining lots, wherein the K is an integer not less than 2".

Regarding independent claim 61, the applied references, even if combined as proposed, fail to result in "a procedure of, with respect to every (K-1) lot of second and subsequent lots in the specific process, for a plurality of measurement divided areas on the photosensitive object that includes at least the plurality of specific divided areas, calculating a non-linear component of positional deviation amount of each of the measurement divided areas from an individual fiducial position based on an actual measurement value of positional information of each of the measurement divided areas and on the estimate value, updating the correction information as needed in accordance with magnitude of one of the calculated non-linear component of positional deviation amount of each of the measurement divided areas and a variation amount of the non-linear component, but not updating the correction information with respect to the remaining lots, and performing exposure while controlling the position of the photosensitive object based on the estimate value of positional information of each of the plurality of divided areas and on the correction information that is latest, wherein the K is an integer not less than 2".

The Office Action cites to Kikuchi and alleges that the calculation of a non-linear component of positional deviation amount is disclosed at Fig. 5, step 306, and paragraph [0208]). Kikuchi, at step 306 (Fig. 5), determines whether m (the lot number) is greater than or equal to n (a predetermined number). If not, Kikuchi discloses that, eventually, the nonlinear components of arrangement deviations are calculated (Fig. 5, step 318). Kikuchi fails to disclose the features quoted above because Kikuchi discloses that non-linear components of arrangements are calculated for every lot m up to or equal to the nth lot, and

discloses that the non-linear components of arrangements are not calculated for lots m where m is greater than n (Fig. 5).

The Office Action acknowledges that Kikuchi fails to disclose the claimed features relating to making a judgment about the necessity of updating correction information based on magnitude of one of said non-linear component of positional deviation amount and a variation amount of the non-linear component, but cites to Irie, Fig. 16A, steps 118-120 as curing these deficiencies. The Office Action acknowledges that Kikuchi and Irie fail to disclose intervals of a predetermined number of said photosensitive objects and intervals of a predetermined period of time, but cites to Tomimatsu at Fig. 3, step 22 and col. 4, lines 53-57 as allegedly curing this deficiency.

Irie describes "the calculation section 505 then calculates an accuracy of superposition $(|X|+3\sigma)$ in the W_1-EGA mode (step 119) like in the EGA mode (step 108), and checks if the accuracy of superposition satisfies a required accuracy (step 120). If it is determined that the accuracy of superposition satisfies a required accuracy, the flow advances to step 121,... On the other hand, if it is determined that the accuracy of superposition does not satisfy a required accuracy, the flow advances to step 123, and the calculation section 505 checks if a condition of calculation, i.e., the sample shot arrangement and/or the value of the parameter S are/is altered. In this case, it is determined that the value of the parameter S is not optimized, and the flow advances to step 124" (col. 40, line 59 to col. 41, line 15).

Irie fails to disclose, with respect to every (K-1) lot of second and subsequent lots, calculating a non-linear component of positional deviation and updating the correction information if necessary, but not updating the correction information with respect to the remaining lots, as claimed. Thus, Irie fails to cure the deficiencies of Kikuchi. Tomimatsu, Umatate, and Matsumoto, cited as disclosing other features, also fail to cure the deficiencies of Kikuchi.

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For the foregoing reasons, Applicants request withdrawal of the rejections.

II. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

Mario A. Costantino
Registration No. 33,565

Jonathan H. Backenstose
Registration No. 47,399

MAC:JHB/jhb

Attachment:
    Request for Continued Examination

Date: August 20, 2009

OLIFF & BERRIDGE, PLC
P.O. Box 320850
Alexandria, Virginia 22320-4850
Telephone: (703) 836-6400

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